

ABSTRACT

A secondary-side rectifying and smoothing circuit 5 that rectifies and smoothes an output voltage V_{out} from a secondary coil N2 of a transformer 2 and outputs a rectified and smoothed voltage to the outside is provided. A tertiary-side rectifying and smoothing circuit 10 that rectifies and smoothes an output voltage from a tertiary coil N3 to produce a direct-current voltage and detects and outputs the direct-current voltage as a detected voltage V_k of the output voltage V_{out} from the secondary-side rectifying and smoothing circuit 5 is provided. A control circuit 20 that controls the switching operation of a main switching device Q on the basis of the detected voltage V_k so that the output voltage V_{out} is stabilized is provided. The secondary-side rectifying and smoothing circuit 5 includes a rectification-side synchronous rectifier 6 and a commutation-side synchronous rectifier 7 as rectifying devices. The tertiary-side rectifying and smoothing circuit 10 includes a commutation-side synchronous rectifier 24 as a rectifying device that rectifies the output voltage from the tertiary coil N3, the commutation-side synchronous rectifier 24 being switched on when the main switching device Q is turned off.